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10/581,681

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Seiji Sato

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EXAMINER

MOMPER, ANNA M

ART UNIT

PAPER NUMBER

3657

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/581,681 | Applicant(s) SATO ET AL. | |
| | Examiner ANNA MOMPER | Art Unit 3657 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3 and 6-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3, 6-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Amendment to the claims received 3/16/2009 has been entered. Claims 1-2 and 4-5 have been canceled. Claims 3 and 6 have been amended. Claims 7-20 have been added.

Response to Arguments

2. Applicant's arguments filed 3/16/2009 have been fully considered but they are not persuasive.

3. With regards to amended claim 3, the applicant argues that the pin 41 of Yamamoto is not disposed in the guide recess 36. A clarified interpretation has been used in the rejection below for Yamamoto with regards to the pin 41. With regards to the pin 41 being the stopper pin, at the front end of the plunger there is a stepped portion 22a which separates a larger diameter portion and a smaller diameter portion. The recess provided between the two diameters can be considered the "guide recess" and the pin 41 is inserted into the pin hole 40 to make contact with the step 22a, therefore entering the guide recess. The applicant further argues that "the pin hole 40 shown in Fig. 2(II) of Yamamoto appears to be larger in diameter than the diameter of the pin 41 such that it does not appear that the pin 41 is pressed into the pin hole 40". Given the broadest reasonable interpretation of the word "pressed", Merriam Webster defines "pressed" as "to act upon through steady pushing or thrusting force exerted in contact" and "to move by means of pressure". It is the examiners belief that a small amount of force is used in inserting the pin 41 into the hole 40, therefore meets the definition of

Art Unit: 3657

Merriam-Webster. In the examiners belief, it appears as though the applicant is attempting to equate "pressed" with "press-fit", wherein, with "press-fit" it is understood that the hole would have the same or slightly smaller diameter such that the insertion of the pin results in a tight fit wherein the pin cannot be easily removed.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 3, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto (JP 2000-291749 A).

As per claim 3, Yamamoto discloses a chain tensioner (10) comprising:

a housing (11) formed with a cylinder chamber (17);

a plunger (22) slidably mounted in said cylinder chamber;

a spring (34) mounted in said cylinder chamber and biasing said plunger

outwardly of said cylinder chamber; and

a retraction restrictor (oil enclosed in cylinder chamber 17 with female screw 26 and male screw 27) provided between said housing (11) and said plunger (22, Fig. 2) for preventing said plunger from retracting toward a closed end of said cylinder chamber over a predetermined distance ([0041], [0043]);

wherein said housing is formed with an oil supply passage (16) communicating with a pressure chamber (17) defined in said cylinder chamber behind said plunger (Fig.

Art Unit: 3657

2), whereby pushing force applied to said plunger is dampened by hydraulic oil supplied through said oil supply passage into said pressure chamber ([0041]),

wherein an axially elongated guide recess (Fig. 2(I), Fig. 2(II), the front end of the plunger has a stepped portion 22a, from the stepped portion 22a to the front of the plunger can be considered a guide recess) is formed in an outer periphery of said plunger (Fig. 2, [0033]), and that said housing is provided with a stopper pin (41) near an open end of said cylinder chamber, said stopper pin being partially disposed in said guide recess (Fig. 2(II));

wherein said housing (11) is formed with a pin hole (40) extending across the outer periphery of the cylinder chamber (Fig. 2(11)) near the open end of the cylinder chamber, with a stopper pin (41) being pressed into the pin hole (Fig. 2(I), Fig. 2(11)).

As per claim 7, Yamamoto further discloses the pin hole intersects a radius of said cylinder chamber substantially at a right angle (Fig. 2(II)).

As per claim 8, Yamamoto further discloses the guide recess is constituted by an axially elongated section of said outer periphery of the plunger (Fig. 2(I), Fig. 2(II), the front end of the plunger has a stepped portion 22a, from the stepped portion 22a to the front of the plunger can be considered a guide recess), said recess being radially recessed relative to other portions of said outer periphery at each axial location along an axial direction of said plunger.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3657

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 6, 11, 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Yamamoto (JP 2000-291749 A) in view of Kodama et al. (US 4,695,268).

Yamamoto discloses all elements of the claimed invention but fails to explicitly disclose the stopper pin is a spring pin.

Kodama et al. discloses a tensioner (Fig. 1) which utilizes a stopper pin (26) which prevents a plunger (18, 25) from protruding out of the housing (19) more than a predetermined amount, said stopper pin (26) being a spring pin (Col. 2, Ln. 40-42).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tensioner of Yamamoto to include the stopper pin is a spring pin for the purpose of preventing the plunger from protruding out of the housing more than a predetermined amount.

9. Claim 3, 7-9, 12, 15-16 and 19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Yamamoto (JP 2000-291749 A) in view of Hashimoto et al. (US 6,447,415 B1).

Art Unit: 3657

As per claim 3, Yamamoto discloses a chain tensioner (10) comprising:

a housing (11) formed with a cylinder chamber (17);

a plunger (22) slidably mounted in said cylinder chamber;

a spring (34) mounted in said cylinder chamber and biasing said plunger outwardly of said cylinder chamber; and

a retraction restrictor (oil enclosed in cylinder chamber 17 with female screw 26 and male screw 27) provided between said housing (11) and said plunger (22, Fig. 2) for preventing said plunger from retracting toward a closed end of said cylinder chamber over a predetermined distance ([0041], [0043]);

wherein said housing is formed with an oil supply passage (16) communicating with a pressure chamber (17) defined in said cylinder chamber behind said plunger (Fig. 2), whereby pushing force applied to said plunger is dampened by hydraulic oil supplied through said oil supply passage into said pressure chamber ([0041]),

wherein an axially elongated guide recess (36) is formed in an outer periphery of said plunger (Fig. 2, [0033]), and that said housing is provided with a stopper pin (51, 54, 55) near an open end of said cylinder chamber, said stopper pin being partially disposed in said guide recess (Fig.3, Fig. 4, Fig. 5)

wherein said housing (11) is formed with a pin hole (50, 53) extending into the outer periphery of the cylinder chamber (Fig. 3, Fig. 4, Fig. 5) near the open end of the cylinder chamber, with a stopper pin (51, 53, 54) being pressed into the pin hole (Fig. 3, Fig. 4, Fig. 5

Yamamoto fails to explicitly disclose the pin hole extending across the outer periphery of the cylinder chamber.

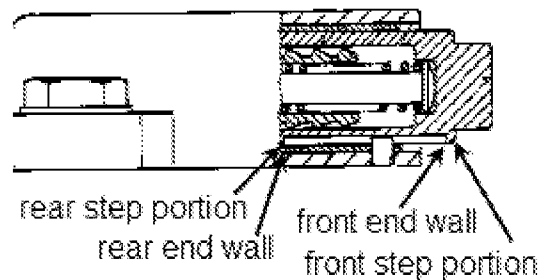
Hashimoto et al. discloses a tensioner wherein a pin (S) is inserted via a hole (1b1) in the housing (11) and a groove (12b) formed in the plunger (12) such that the pin (S) extends across the outer periphery of a cylinder chamber (11a, Fig. 1B) to prevent the plunger from extending outward from the cylinder.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tensioner of Yamamoto to include the pin hole extending across the outer periphery of the cylinder chamber, as taught by Hashimoto et al., for the purpose of preventing the plunger from extending out of the cylinder chamber.

As per claim 7, Hashimoto further discloses the pin hole intersects a radius of said cylinder chamber substantially at a right angle (Fig. 1B).

As per claims 8 and 15, Yamamoto further discloses the guide recess (36) is constituted by an axially elongated section of said outer periphery of the plunger (Fig. 3, Fig. 4, Fig. 5), said recess being radially recessed relative to other portions of said outer periphery at each axial location along an axial direction of said plunger (Fig. 3(II), Fig. 4(II), Fig. 5(II)).

As per claims 9, 12, 16 and 19, Yamamoto further discloses the guide recess has axially opposite front and rear end walls, each of front and rear end walls defining a step portion (see fig. below.



10. Claims 6, 10, 11, 13, 14, 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (JP 2000-291749 A) in view of Hashimoto (US 6,447,415 B1) and further in view of Kodama et al. (US 4,695,268).

Modified Yamamoto discloses all elements of the claimed invention but fails to explicitly disclose the stopper pin is a spring pin.

Kodama et al. discloses a tensioner (Fig. 1) which utilizes a stopper pin (26) which prevents a plunger (18, 25) from protruding out of the housing (19) more than a predetermined amount, said stopper pin (26) being a spring pin (Col. 2, Ln. 40-42).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the tensioner of Modified Yamamoto to include the stopper pin is a spring pin for the purpose of preventing the plunger from protruding out of the housing more than a predetermined amount.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNA MOMPER whose telephone number is (571)270-5788. The examiner can normally be reached on M-F 6:00-3:30 (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on (571) 272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3657

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bradley T King/
Primary Examiner, Art Unit 3657

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